

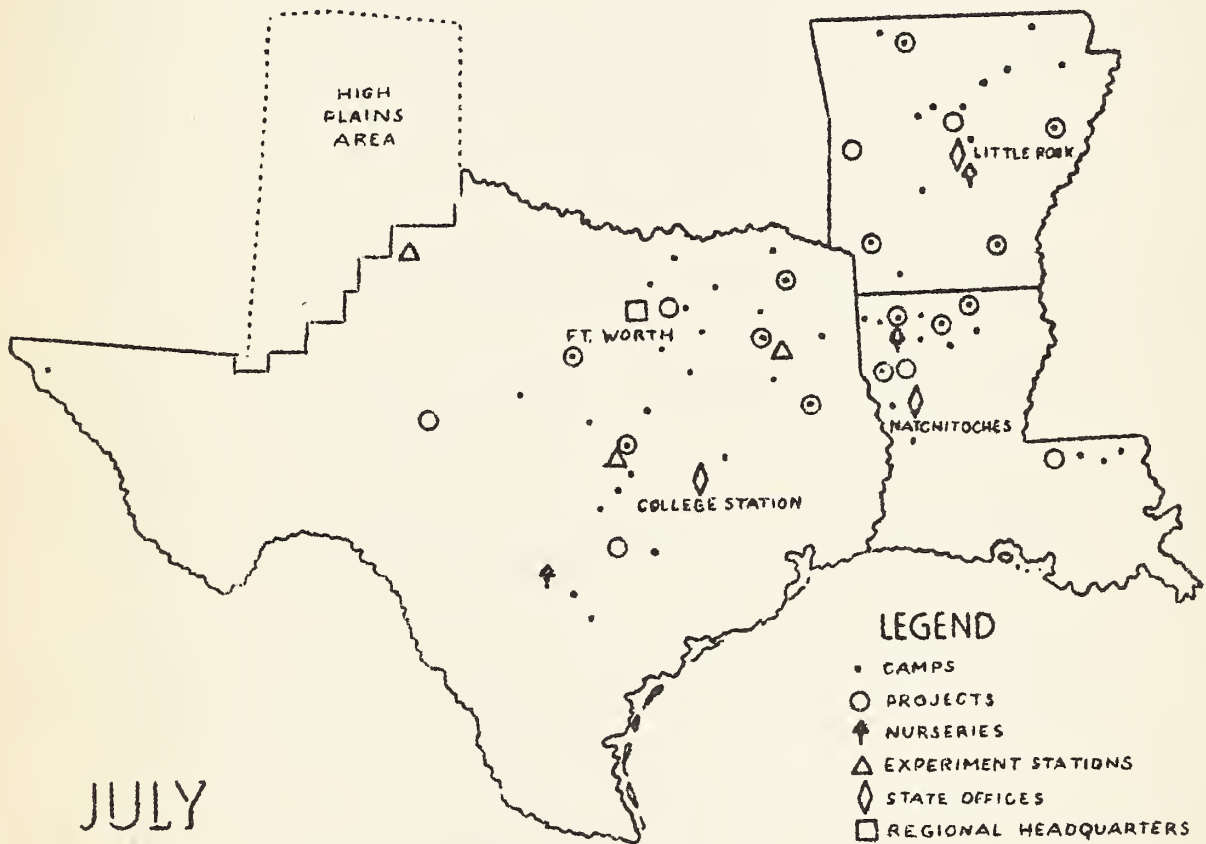
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# SOIL CONSERVATION SERVICE

## NEWS



### REGION 4

COMPRISING STATES OF LOUISIANA,  
ARKANSAS, AND TEXAS EXCEPT  
HIGH PLAINS AREA



DR. BENNETT'S VISIT TOREGION 4

- June 30th Dr. Bennett arrived in Fort Smith, Arkansas at 9 A.M. Met by Mr. Merrill, State Coordinators and Secretary of Fort Smith Chamber of Commerce.
- July 1st At Harrison, Arkansas, Dr. Bennett looked at the field work of the project.
- July 2nd Dr. Bennett made an address to over 7,000 people assembled in Waldron, Arkansas after a field tour over the Waldron project area and barbecue, at the Scott County Soil Conservation Association field day.
- July 3rd Dr. Bennett made a tour of the Hope, Arkansas Project.
- July 4, 5, 6 The annual meeting of the Southwest Soil and Water Conservation Conference was in session. Dr. Bennett made an address to the assembly during the conference.
- July 7 Field Day at Minden, Louisiana. Dr. Bennett spoke to an assembled group of more than 5,000 people after a tour of the Minden project area and barbecue.
- July 8 Dr. Bennett delivered an address to the East Texas Conference on Soil Conservation and Flood Control, in Nacogdoches, Texas. Five thousand or more were present. Inspected project area.
- July 9 Noon. Dr. Bennett was principal speaker at meeting of Fort Worth, Texas Rotary Club and Chamber of Commerce. Evening: Dr. Bennett spoke before the District F.F.A. meeting in Dublin, Texas.
- July 10 At noon Dr. Bennett talked at a luncheon (Farm Editors) held at Garland, Texas.
- July 11 Dr. Bennett left Fort Worth bound for Greensboro, Alabama.

EXCERPTS FROM TALKS MADE BY DR. BENNETT DURINGHIS VISIT TO REGION 4

. . . Today we continue to waste our soil resources on a gigantic scale. Throughout the country, land is still misused and erosion still takes the soil from fertile fields. We probably are still a long way from the day when soil husbandry will be universal among the farmers in America. As a matter of fact, much remains to be learned about the science of erosion control. But we finally have made a start in the right direction and we are moving forward every day. We know now, for instance, how far the evil of erosion has spread across our farm and grazing lands, and we understand its complicated processes better than ever before. We have acquired a vast amount of practical knowledge and experience in carrying out erosion-control work on the land of more than 40,000 cooperating farmers and on millions of acres of public land. In the last few years, we have made far greater advance toward conservation of our soil than in all the preceding years since America became a nation.

The national program of soil and water conservation now in progress is carrying us, I believe, into a new era of land use -- the kind of use which substitutes for an old system of waste and exploitation a new system of land defense. Such defense with sound methods of soil and water conservation is as necessary for the continuing welfare of the nation as the protection of our shores from possible invasion. Further, I am convinced that the trail already has been blazed, the pattern cut. Knowing what must be done if our lands and agriculture are to be secured, I believe America will not now shirk the job of doing it.

And surely, now that we have a clear vision of the necessity for soil and water conservation, this country is going to hold its course definitely and unalterably in the direction of providing permanent protection, permanent security, for our most basic asset -- the land -- in which our children's stake is as great as our own. It is a reassurance of American common sense that we have already set forward on that course.

Again disastrous floods have mounted to record heights. Floods and ever higher floods are but another consequence of the spreading evil of erosion. With absorptive soil washed from millions of acres down to unabsorptive subsoil; with millions of new tributaries added to natural drainages in the form of gully excavations, and other thousands of tributaries in the form of roadside and drainage ditches, is there any necessity for further discussion of one of the principal causes of mounting flood peaks, or excuse for not attacking forthwith the prodigious task of directing more of the rainfall into the vast reservoir of the soil?

There is no need to deceive ourselves; the job of curbing that phase of the flood problem having to do with accelerated runoff from mis-treated watersheds, which is both the cause and effect of accelerated erosion, is going to take decades. Moreover, the longer it is postponed the more difficult and costly it will be.

Consider for a moment the significance of some recent historic events in the field of soil and water conservation:

From a position of insignificant national concern a decade ago, public interest in the problem of conserving soil and water has advanced to the status of a national policy. After 150 years, Congress, through the Soil Conservation Act of 1935, establishing the Soil Conservation Service as a part of the Department of Agriculture, recognized that wastage of soil and



water resources constitutes "a menace to national welfare", and declared it to be the policy of that body "to provide permanently for the control and prevention of soil erosion and thereby to preserve natural resources".

Again in 1936, Congress set up another milepost on the road toward an adequate program of soil and moisture conservation, by including in the Flood Control Act of June 22, 1936, for the first time, in legislation of this kind, a provision for considering measures to retard runoff and prevent erosion upstream over entire watersheds, in order to supplement the effectiveness of major downstream flood-control structures.

I think it has become clear to the majority that if ever a problem involved the responsibility of the whole people -- business and professional men, landowners, technicians, legislators, educators, ministers, the press, the radio, and local and national organizations -- this one of safeguarding our lands without further delay is precisely such a problem. Accelerated soil erosion presents the nation, not merely the individual landowners, with a physical land crisis of enormous importance to the continuing welfare of agriculture in particular and the entire social and economic structure in general. Moreover, beyond this most acute aspect of the whole land problem, there exists the physical fact that there can be no permanent control of floods or prevention of stream and reservoir silting until runoff is better controlled over entire watersheds, instead of along stream channels after floods have arrived with their loads of suspended soil. Control of erosion is the first and most essential step in the direction of correct land utilization on something like 75 percent of the present and potential cultivated area of the nation.



If the United States is to be a permanent country, we may as well make up our minds now that it is going to be necessary to defend our agricultural lands far more efficiently than heretofore, and that decades of defensive operations confront us. We are not in imminent danger of starving; we have an abundance of land. Our agricultural domain is still capable of producing surpluses. Nevertheless, because of misuse -- principally because of erosion -- a vast and widely scattered aggregate already has been severely impoverished or ruined -- some 200,000,000 acres. Five times as much as the great agricultural State of Illinois. And the momentum of disaster is such that 300,000 additional acres continue to join the wreckage every year. All this within a few decades -- at most, a century and a half.

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#### HIGHWAY EROSION CONTROL WORK

By

Arnold Davis

The Soil Conservation Service is not responsible for the control of erosion on public highways, but it is to our advantage to cooperate with officials of county and state highway departments in the solving of this problem.

The highway ditch is, in most cases, a continuous gully that is even more active than a field gully because of the flash run-off and the absence of good soil that would induce the growth of native vegetation. However, since the highway ditch must be treated in such a manner as to form the foundation for the solution of other highway problems, such as safety and beautification, the usual field gully measures are not applicable.

There are numerous cases where badly eroding highway ditches are causing damage to agricultural lands. The land owner is often responsible for this condition by using the ditch as a terrace outlet channel without installing protective measures. The result is usually a squabble between the officials and the land owner that ends only after the road is so badly damaged that relocation is more economical than rebuilding.

The Soil Conservation Service has made good progress in eliminating such conditions where they exist adjoining farms under cooperative agreement. A well planned terrace system usually diverts the water from the highway, however, there are cases where the water must drain into the highway ditch. When this condition occurs it is much the best practice to use a common ditch, provided, of course, the proper cooperation can be obtained to construct a section on a good line and grade and establish adequate control measures. A separate channel parallel to a badly eroding highway ditch is not permanent. If the ditch is to be controlled, it can be designed to carry the additional water without danger to control measures.

There are other cases where steep highway banks are sloughing back into good farm land. Where this occurs along cooperating farms it is permissible to establish control measures in the highway ditch as a supplement to treatment of the farms.

In a number of the camps and projects this work has been carried on in perfect coordination with the work on agricultural lands. The labor used on this work has not in any way handicapped the operations in controlling erosion on agricultural lands, in fact, it has helped to provide a useful outlet for excess labor during seasons when it could not be economically used otherwise.

When a farm has been treated for the control of erosion the cost of this treatment is a very important item. The plans for all future work are based on cost. If the enrollees are sent back on a farm to do work that would not be done during heavy work seasons, then this additional expense inflates the cost of the control measures.

If a labor schedule of work is planned to include control of several ditches adjoining cooperating farms, every one concerned should be benefited.

Your attention is called to Letter Memorandum No. 216 which contains specific instructions as to the procedure to be followed when such work is contemplated.

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#### METHODS OF HARVESTING AND CLEANING

##### "FILAREE" SEED

(As used at San Angelo, Texas, May 8, 1937)

By

R. C. Mauldin,  
Jr. Botanist.

To determine a practical method of securing "Filaree" seed, (Erodium texanum and Erodium cicutarium) with the equipment and labor available, the following methods were tried by the Nursery Section, Soil Conservation Service near San Angelo, Texas: mowing with horse-drawn mower; using garden rakes to rake mature seed from the ground; and hand picking or pulling.

A small area was mowed with a horse-drawn mower, but the amount of viable seed obtained compared with amount of vegetative plant growth was so great as to make it almost impossible to cure the vegetative material and at the same time save the seed, which drop off and become entangled in the leaves and stems just as soon as they become slightly dry.

Two hundred and thirty-five pounds of material was collected by raking the material into piles on the ground. This was possible in areas of two to four square rods, where plants had matured at a height of four to six inches, due to the type of soil and moisture conditions. Around these spots the plants were still green and had matured approximately 30% of the seed crop. The plant often grows to a height of twelve to sixteen inches when not over-grazed or where protected from grazing.

One hundred seventy-four pounds of material was harvested by the hand picking or pulling method. This appeared to be the most practical means of harvesting the seed, considering the amount of dirt, trash, rocks and vegetative growth gathered with the seed. Only about 30% of the seed seem to mature at any definite stage and should be pulled as the seed coat turns brown.

The uniform height to which the plant grows makes it practical to harvest the seed with a power stripper or a combine. In any method it is necessary to start the seed drying as it is harvested, by spreading the collected material in a thin layer on tarpaulins. With this treatment, the seed dried in one day's time. Seed that were harvested in the afternoon could not be bulked until dried the following day.

Only a small amount of Erodium cicutarium was collected. This species matures earlier than Erodium texanum and does not grow abundantly in the San Angelo area.

In order to calculate the cost of harvesting and to determine per cent of seed obtainable, some material of each method harvested was threshed separately.

<u>Erodium texanum</u>	<u>Collected with Garden Rakes</u>	<u>Hand Pulled</u>
Total No. lbs. harvested	235	174
Total Cost per lb.	.051	.082
No. lbs. threshed separately from total amount	53	36
No. lbs. seed obtained when threshed	26	13
No. lbs. obtained when recleaned	13	6
Per cent seed obtained when threshed and recleaned	24.5	16.6



The following table gives figures for purity.

	<u>Collected with</u> <u>Garden Rakes</u>		<u>Hand Pulled</u>
Weight of sample	35.5	grams	32 grams
Weight of pure seed	9.28	"	15.296 "
Weight of material other than seed	25.22	"	16.704 "
Per cent of pure seed	25.3		47.8

The per cent of pure seed was obtained by dividing the weight of pure seed by the total weight of sample.

The labor cost was higher on seed pulled by hand, but the purity test shows that material pulled by hand yielded more seed than material collected with garden rakes.

Total cost for each method of harvesting was not figured. After weighing and threshing the 53-pound and 36-pound lots separately, the remainder was bulked and threshed as one lot. The total cost of harvesting Erodium texanum, which included supervision, labor, and transportation, was 23¢ per pound. The cost figures given in the table are for labor and for transportation only from warehouse to the field. The amount of travel and per diem added to the total cost would not in every case give a true collecting cost. The cost of threshing which figured .068 cents per pound plus an average of 6¢ per pound labor cost for collecting, would make the whole cost of handling the seed around 13¢ per pound.

To thresh the seed and remove the much spiralled awn, it was necessary to use clover concaves and run the material through a second time. In threshing, numerous seed were broken and some seed were removed from the seed coat. No doubt, the number of broken seed could be decreased if the threshing was done on damp days. It was not possible to remove all the inert matter (material other than seed) by recleaning because of having to close the concaves, which breaks the vegetative material or inert matter to the same size and weight of the seed.

The following excerpt from Circular No. 178, U.S.D.A. on Filaroo (Erodium cicutarium), "Artificial Re-seeding on Western Mountain Range Lands," will apply to seed and seeding of Erodium texanum.

#### Alfileria

"Filaroo" (Erodium cicutarium) is an excellent forage in years of good rainfall in many parts of the arid Southwest and in portions of California. It was brought in from the Old World, presumably from Spain and the Mediterranean region, and has spread naturally over much of the Southwest and as far north as central Idaho. Alfileria begins growing during the winter rainy season, and at that time, if moisture is sufficient, furnishes

an abundance of highly valuable green forage. When this moisture is dissipated the plant dries up, but often remains edible and palatable until utilized. Sampson (28) found that nearly 30 per cent of the early re-seeding experiments with this species gave good results. The seed must either be exposed to the weather for several months or the seed coats broken in order to induce satisfactory germination. Thornber (33) calls attention to the fact that establishment of alfileria stands from seed sowing is likely to prove a rather slow process. Probably this species is of most value for reseeded areas similar to those where it has gained a foothold naturally or where it is likely to spread. Sampson recommends fall sowing with 8 pounds of seed per acre at elevations not exceeding 5,000 feet in California or 3,000 feet in the North."

Common names of both species vary according to locality. Mrs. Ellen D. Schulz gives the following common names for Erodium texanum: Stork's Bill, Wild Geranium, Pine Needle; and the following common names for Erodium cicutarium: Pine Clover, Filaree, Alfileria, Pin Plant. Sampson gives the common name Alfileria for both Erodium texanum and Erodium cicutarium. Other authorities give Texas Filaree for Erodium texanum, and California Filaree for Erodium cicutarium.

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#### DOES PROPER LAND USE PAY?

Sub-marginal Windthorst soil changes role from idle fields to an excellent demonstration of proper land use.

Two old idle fields of approximately twenty acres of submarginal land on the R. Q. Roe farm were contour ridged and sodded to bermuda grass about eleven months ago. To date all ridges are practically covered with bermuda grass. In many places, grass has covered areas above and below the ridges.

The owner states that these fields had not given any returns for a long period of time and that he looked upon them as waste land, used to hold his farm together.

The past year of experience with pasture improvement work on these fields has convinced Mr. Roe that every piece of land should be put to its proper use. He stated that time would soon have these fields carrying more animal units per acre than his native pasture; also that any returns received from these fields in the way of cash income or erosion control will be a result of his cooperative agreement with the Gatesville Soil Conservation Camp.

-- Project Tex-8,  
Dublin, Texas.

## MEADOW STRIPS ARE PROVING PROFITABLE AND

### POPULAR

Hay has already been cut from the meadow strips on the farms of W. A. Green and J. B. Hollis, who are cooperators with the Soil Conservation Service in the Bernice Area. Each of these farmers expects to get at least one more, and probably two more, cuttings.

Sudan grass was planted on these meadow strips in early spring at the rate of 35 to 40 lbs. of seed per acre. A small amount of Nitrate of Soda was added to the meadow strip on Mr. Green's place. The ground was only lightly prepared with a plow and disk and the seed were planted with a grain drill.

Both farmers are well pleased with their meadow strips and the hay they are cutting. They agree that they need more of this type of terrace outlet.

Mr. Hollis is planning to give his meadow strip a top dressing of Nitrate of Soda so as to give more assurance of a good yield at the second and third cuttings.

Other work of the Soil Conservation Service may be seen on these farms where a complete soil and water conservation program is being carried out.

-- Project La-5,  
Farmerville, La.

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## INCREASED WATER CONSERVATION

Mr. W. R. Dortch, Asst. Soil Conservationist on the Conway Project of the Soil Conservation Service states that of 272 Cooperators interviewed, 263 stated that the program being carried out on their farms had reduced the rainfall run-off; 79 reported that the water level had been raised in their wells; and of 74 having springs, 34 reported that the volume and duration of flow had been increased in their springs.

These farmers realize that terracing, contour tillage, strip cropping, and revegetation of badly eroded areas is also conserving much needed moisture for growing crops. They know too that when less water leaves the farm on the surface that soil losses are reduced accordingly.

Many farmers have reported that during the drouth of 1936, crops stayed greener several days longer where contour tillage was practiced than on similar adjoining fields where the rows were run up and down the hill.

-- Project Ark-1,  
Conway, Arkansas.



### NON-COOPERATOR ADVOCATES SCS PRACTICES

Although a non-cooperator, F. G. Kelly, one of the leaders of Long Straw Community, has adopted the practices advocated by the Soil Conservation Service and is well pleased with his results. "I can't say too much about the Soil Conservation Service program," Mr. Kelly remarked.

"I've noticed that a man never gets too old or too wise but that he can learn something now," said Mr. Kelly. "My present farm program is the result of observation of the farms that are cooperating with the Soil Conservation Service and the assistance of the County Agent of our parish."

Mr. Kelly's terraces were constructed by a tractor that was obtained by the parish through the County Agent. These terraces are broad of base and similar in height and width to those constructed by the Service.

Strip crops were planted on the new terraces the first year and according to Mr. Kelly, this practice will be continued next year by putting strips between the terraces to control washes and to retard the flow of excess rainfall. The harvesting of the strip crops, contrary to doubtful remarks made by neighboring farmers, was easily accomplished by the use of a two-mule mower and in no wise interfered with his other crops.

All excessive steep and unproductive land on this farm will be retired either to pasture or woodland which conforms in every respect to the proper land use program that is being put into operation on the cooperating farms.

Mr. Kelly is one of many non-cooperating farmers who are observing and forthwith adopting the Soil Conservation Service practices that have proven profitable from a soil conservation standpoint on their neighboring farms.

-- Project La-6,  
Ruston, Louisiana.

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### SOIL CONSERVATION PROGRAM JUSTIFIED

"America as a whole joined in to exploit our resources of soil fertility and forests, and it is proper that jointly all of its people should help in the restoration. Certainly the soil and timber supply are at the head of the list among natural resources, but if exploitation should continue unrestricted a few generations longer, every man, woman and child of the land would be affected detrimentally. Therefore, let this country start making an investment in soil, trees, and in a rejuvenated agricultural population as the best form of national security that can be devised. No other taxes paid will bring such abundant returns. . . ."

-- Newsletter - Briefly Speaking  
Agricultural Adjustment Administration  
6/14/37

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